REMARKS

Review and reconsideration of the Final Office Action dated June 28, 2011 and entry of present Amendment E is respectfully requested.

Claims 36-53 are pending on the application. Claims 36-37, 39-45, 48-49, and 51-52 have been amended to overcome the Examiner's formalities rejections.

No new matter has been added to the claims by the present amendment.

During the telephone interview of November 10, 2010, the Examiner indicated that Applicants did not provide any documentation that determines whether or not unexpected results can be achieved by the method of the present invention.

Applicant is submitting herewith a Declaration under 37 C.F.R. §1.132, including tests results that demonstrate that:

the addition of minerals within the claimed amounts to three types of beer improves the taste of beers, and that the addition of minerals just outside of the claimed amounts is disruptive to the taste. Additionally this experiment demonstrates that the score for each taste component is affected by several minerals (Experiment A).

the effect on taste of restoring minerals to diluted beers, using three types of beers chosen from Alcazar *et al.,* as a reference and to compare that procedure with the effect on taste of adding minerals according to the present invention (Experiment B).

the effect on taste of adding minerals as taught individually by Dunhowe, Lindon and Costa to three types of undiluted beer and to assess the effect on taste of the same beers by combining the teaching of these three references (Experiment C).

the effect on taste of adding minerals to three types of diluted beer as taught individually by Dunhowe, Lindon et al and Costa and to assess the effect on taste of combining their teaching using the same three diluted beers (Experiment D).

Applicant respectfully requests the Examiner to review the results of the Declaration document.

As can be seen from the results of the test, the addition of minerals just outside of the claimed amounts is disruptive to the taste of the beer: thus, adding the mineral additive with the specific minerals and concentration indeed produces unexpected results.

Furthermore, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number to confirm the date and time proposed on the Request for Telephone Interview filed herewith.

Office Action

Turning now to the Office Action in greater detail, the paragraphing of the Examiner is adopted.

Claims Rejections– Formalities

The Examiner rejected Claims 36-53 under 35 USC 112, second paragraph, as being indefinite.

The Examiner's position can be found on pages 2-3 of the Office Action.

In response, Applicant amended the claims to overcome the formality rejection.

Regarding the term "enhancing", Applicant respectfully points out to the Examiner that the specification has several references exemplifying what is intended in the term, including:

"flavor and taste profile"; "flavor and taste perceptions are enhanced"; "enhanced taste characteristics'; "modifying taste profiles of beers";

"to enhance taste characteristics of the diluted beer when compared to a dilution solely with water" (See paragraph [009], Abstract, Claim 1);

"reduce after taste bitterness on the tongue with more intense expression of flavors and even more approachable for drinking" (See Paragraph [00084]);

"were more approachable and had a broader flavor profile and reduced sharpness on the palate compared with unmodified stout beers" (See Paragraph [00084];

"were more approachable because the modification reduced the influence of an ester component in the taste profile and exposed more malt flavor components" (See Paragraph [00085]); and

"had enhanced aroma enhanced flavor profiles and greater length on the palate" (See Paragraph [00086]).

Thus, the term is well defined by the specification.

Accordingly, withdrawal of the claims rejection is respectfully requested.

Claims Rejection- (Prior Art – Obviousness)

The Examiner rejected Claims 36-53 under 35 U.S.C. 103(a) as being obvious over Donhowe (US 2003/0157218: hereafter called R1) in view of Costa (WO 01/68534; hereafter called R2) further in view of Lindon et al. (US 5,786,006; hereafter called R3) and further in view of Alcazar (2002, Multivariate Characterization of beers according to their mineral content, hereafter called R4).

The position of the Examiner can be found on pages 3-9 of the Office Action.

Applicant respectfully traverses.

The present set of claims contains three independent claims, namely, Claims 36, 48, and 53.

The following remarks are addressed to independent Claims 36, 48, and 53, because if these claims are not anticipated or obvious, it follows that none of the other rejected dependent claims are anticipated or obvious.

Compared with Claims 36 and 48, the R1, R2, R3, and R4 references fail to teach **mainly** the steps of: preparing a mineral additive by combining group A minerals, group B minerals, group C minerals and group D minerals as presently claimed and then adding the mineral additive to a beer.

Applicant respectfully points out to the Examiner that the mineral additive is tailored to include the combination of specific minerals and amount of these minerals.

Applicant is submitting herewith a Declaration under 37 C.F.R. §1.132, including tests results that demonstrate that:

the addition of minerals within the claimed amounts to three types of beer improves the taste of beer, and that the addition of minerals just outside of the claimed amounts is disruptive to the taste. Additionally this experiment demonstrates that the score for each taste component is affected by several minerals (Experiment A).

the effect on taste of restoring minerals to diluted beers, using three types of beers chosen from Alcazar *et al.,* as a reference and to compare that procedure with the effect on taste of adding minerals according to the present invention (Experiment B).

the effect on taste of adding minerals as taught individually by Dunhowe, Lindon and Costa to three types of undiluted beer and to assess the effect on taste of the same beers by combining the teaching of these three references (Experiment C).

the effect on taste of adding minerals to three types of diluted beer as taught individually by Dunhowe, Lindon et al and Costa and to assess the effect on taste of combining their teaching using the same three diluted beers (Experiment D).

Applicant respectfully requests the Examiner to review the results of the Declaration document.

The data of Experiment A shows that the addition to commercial beers of minerals in according to the Claims of the present invention results in beers with superior taste compared with beers to which no minerals have been added.

Furthermore, the data of Experiment A shows that the addition of minerals at levels as defined in Claim 36 define a limit of amounts that might be added to beer before having markedly adverse effects on taste components as demonstrated by the disruption from an acceptable rating when any element was added individually beyond the limits defined in claim 36.

Additionally the data of Experiment A demonstrated that alteration of individual elements has divergent effects on usually more than one taste component. By way of example we can look at the influence of varying minerals in undiluted Becks beer. Thus by the addition of excess calcium, predictably, the calcic/magnesic component is elevated beyond the acceptable range, however additionally, the mineral sensation, acidity and sweetness all drop below the acceptable range. Similarly other elements have an influence on more than one taste component

The data of Experiment B shows that in all three diluted beers the claimed levels of addition of minerals significantly enhanced their taste, particularly at the most preferred levels, whereas restoring the minerals depleted by dilution to levels as present in the undiluted beer was ineffective.

The claimed levels of addition to the diluted beers also moved into the acceptable range some components which were weak in the undiluted commercial beers (saltiness and sweetness in Guiness and calcic/magnesic in all three beers), reflecting the enhancement of these components which also occurred when the claimed minerals were added to the undiluted commercial (see Experiment A).

As can be seen from the results of the test, the addition of minerals just outside of the claimed amounts is disruptive to the taste of the beer: thus, adding the mineral additive with the specific minerals and concentration indeed produces unexpected results.

Applicant notes that the general trend for most components in all treated beers was toward the weak and absent ratings. Two treated beers, Heineken/Lindon and Guinness/Combined treatments were repulsive. All treatments disrupted further or **destroyed** the diluted beers and did not enhance their taste. This result contrasts markedly with the enhancement of taste of the diluted beers by addition of the elements at levels of the beer according to the present invention.

In addition, Applicant notes that the overall taste profiles of all the tested beers were disrupted by dilution (as described in experiment B) and generally were disrupted further by the five treatments. The three diluted beers only retained 3, 1 or 0 acceptable components respectively (from 11 for Beck's and Heineken and from 12 for Guinness). The number of acceptable components for each treatment for the three diluted beers respectively were as follows : Dunhowe (Ca only) (1, 1, 0) Dunhowe (Ca, Zn, Fe) (1, 2, 0), Lindon (3, 0, 0), Costa (1, 3, 0) and (0, 0, 0) for the combined treatments.

The present invention adds a further complement of minerals to a beer, in which concentration already has been defined depending on the type of beer. The amount and proportion of the minerals are constant and depend only on the type of beer and not in the amount of minerals present on the beer that is being enhanced.

In Ex parte Viscardi, 136 USPQ 382, the applicants discovered that the addition of carbon dioxide would completely remove static electricity. The Examiner rejected the

application over a reference that taught the addition of carbon dioxide, but for a different reason. The issue was whether that the addition of carbon dioxide would completely remove static electricity was novel. The court held that the invention was unobvious. The rule of law is that a significant and unobvious improvement could be used to rebut an obviousness rejection. The court reasoned that in the absence of appreciation by the patentee of the fact that carbon dioxide will completely remove a charge of static electricity, there was no reason why the inventor, or one skilled in the art following the patentee's teaching, should inherently adjust the concentration of carbon dioxide for the removal of the complete static charge.

Similarly, the present inventor discovered that the selection of the **specific claimed minerals** at the claimed proportions produces a mineral additive that enhances the taste of a beer and at the same time is not harmful to humans or animals even if toxic chemicals form part of the mineral additive.

Only, after much experimentation and testing of many compounds, did the present Applicant discover that the specific mixture of minerals and the specific proportions would **always** provide the capacity to enhance the taste of a base beer.

As can be seen from the results of the test, the addition of minerals just outside of the claimed amounts is disruptive to the taste of the beer: thus, adding the mineral additive with the specific minerals and concentration indeed produces unexpected results.

Applicant is pleased to see that the Examiner concedes that the concentration of the minerals mix added in accordance with the claims is not the normal level of such minerals in the beers.

Applicant also notes that the Examiner has now stated that the inventor has optimized the levels of minerals to "safe levels". As stated earlier, the applicant has optimized levels of minerals clearly within levels that are suitable for consumption, but the optimization has not been to optimize for safety reasons. Clearly non-toxic levels are desired, and presumably a totally safe level would be zero. The inventor has optimized levels solely based on taste, and has arrived at a mineral mix of at least seven minerals that have not been shown before to

enhance the taste of diluted beer and full strength beer. The references show no motivation to optimize the levels of seven or more minerals for addition to a finished beer to enhance taste. The mineral mix composition and method of adding only minerals to beer is not something that a skilled addressee would have contemplated as a way of enhancing the flavor of beer. In applicant's submission there is no motivation to develop a mineral mix to enhance the flavor of a finished beer, because none of the citations raised by the Examiner show any hint that this could be done.

Furthermore, Applicant's position regarding the references has been stated in Amendment D filed on February 22, 2011. Applicant would like to repeat the arguments provided to the Examiner on Amendment D. Applicant respectfully requests the Examiner to review the arguments presented on Amendment D, along with the results of the Declaration under 37 C.F.R. §1.132.

Accordingly, withdrawal of the obviousness rejection, in view of the combination of Donhowe, Costa, Lindon, and Alcazar, is respectfully requested.

Favorable consideration and early issuance of the Notice of Allowance are respectfully requested. Should further issues remain prior to allowance, the Examiner is respectfully requested to contact the undersigned at the indicated telephone number.

Respectfully submitted,

/Evelyn A Defillo/

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Date: September 28, 2011

CERTIFICATE OF FILING

I hereby certify that a copy of the foregoing AMENDMENT E for U.S. Application No. 10/574,874 filed April 06, 2006, was electronically filed addressed: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on September 28, 2011.

/Evelyn A Defillo/

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